

***Remarks***

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 21-25 and 32-34 are pending in the application, with claim 21 being the sole independent claim. Claims 21 and 22 are sought to be amended. New claims 32-34 are sought to be added. Applicant reserves the right to prosecute similar or broader claims, with respect to the amended claims, in the future. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding rejections and that they be withdrawn.

***Rejection under 35 U.S.C. § 112***

Claims 21-25 have been rejected under 35 U.S.C. § 112, second paragraph.

In particular, the Examiner rejected claim 21 as being allegedly unclear as to what the recited “frequency modulator (FM)” includes. Without acquiescing to the propriety of the rejection, claim 21 has been amended accordingly to address this issue.

The Examiner has further rejected claim 22 as being allegedly unclear as to what the recited signals  $I'(n)$  and  $Q'(n)$  are. Independent claim 21, from which claim 22 depends, clearly defines signals  $I(n)$  and  $Q(n)$ . Furthermore, as is well known to one of ordinary skill in the art,  $I'(n)$  and  $Q'(n)$  represent the first derivate of signals  $I(n)$  and  $Q(n)$ , respectively. Therefore, the Examiner’s consideration of  $I'(n)$  and  $Q'(n)$  as delayed versions of signals  $I(n)$  and  $Q(n)$ , respectively, is incorrect.

In view of the foregoing, Applicant respectfully requests that the rejection of claims 21-25 under 35 U.S.C. § 112, second paragraph, be reconsidered and withdrawn.

***Rejections under 35 U.S.C. § 103***

Claims 21-25 were rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Patent No. 5,404,405 to Collier et al. (“Collier”) in view of U.S. Patent No. 4,716,589 to Matsui (“Matsui”). For the reasons set forth below, Applicant respectfully traverses.

Independent claim 21 recites features that distinguish over the applied references. For example, claim 21 recites, *inter alia*, “a FM demodulator configured to generate a FM demodulated signal substantially equal to  $Z(n)/X(n)$ , wherein  $Z(n)$  and  $X(n)$  are functions of  $I(n)$  and  $Q(n)$ , *the FM demodulator including a denominator device that estimates a value  $1/X(n)$  based at least in part on a prior estimated value of  $1/X(n)$ .*” (Emphasis added).

Collier is not used by the Examiner in the Office Action, nor does Collier, teach or suggest at least the aforementioned feature of independent claim 21. Similarly, Matsui is not used by the Examiner in the Office Action, nor does Matsui, teach or suggest at least the aforementioned feature of independent claim 21. Thus, Matsui does not cure this deficiency.

Therefore, Independent claim 21 is patentable over Collier in view of Matsui. Dependent claims 22-25 and 32-34 are similarly patentable over Collier in view of Matsui for at least the same reason as claim 21, from which they depend, and further in view of their own respective features. Accordingly, Applicant respectfully requests

reconsideration and withdrawal of the rejection of claims 21-25, as well as favorable consideration of new claims 32-34.

***Obviousness-Type Double Patenting Rejections***

The Examiner has rejected claims 21-25 under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1, 3, and 9 of U.S. Patent No. 7,006,806 (“the ‘806 patent”). (Office Action, page 5).

Applicant respectfully requests that the currently asserted double patenting rejection be held in abeyance until claimed subject matter is otherwise deemed allowable. After analyzing the final allowed claim scope, Applicant will consider filing a terminal disclaimer if necessary to overcome an obviousness-type double patenting rejection.

***Conclusion***

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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